ABSTRACT

TITLE OF THE ABSTRACT:

A randomized control study comparing the King vision video laryngoscope and the D blade of the CMAC video laryngoscope in patients with cervical spine immobilization.

BACKGROUND:

Cervical spine immobilization renders direct laryngoscopy difficult. Video laryngoscopes help in better visualization of the glottis in patients with cervical spine immobilization. Video laryngoscopes can be either channeled (King vision) or non channeled (CMAC).

OBJECTIVE:

To compare the time for visualization of the glottis and the time for intubation of the airway between the King vision video laryngoscope and the D blade of the CMAC video laryngoscope. To also compare the subjective ease of intubation, haemodynamic response and associated complications between both the study video laryngoscopes.

METHODS:

Type of study: prospective, randomized control study

Hundred patients requiring general anaesthesia for elective surgery and fulfilling the inclusion criteria were randomly allocated to two groups (50 in each group) after having obtained informed consent. After induction of general anaesthesia, manual inline stabilization (MILS) was applied and the patients intubated with either the King vision video laryngoscope or the D blade of the CMAC video laryngoscope. Standardized anaesthesia protocol was followed for every patient. Time for visualization of the glottis and time for intubation was noted. Intubation difficulty scale (IDS) was graded and hemodynamic response monitored for each patient.

RESULTS:

The time for visualization of the glottis was much shorter in the CMAC D blade compared to the King vision video laryngoscope (p value<0.001). The incidence of external laryngeal manipulation was less in the King vision group (p value-0.001). The ease of intubation was higher in the King vision group based on the intubation difficulty scores (IDS)(p value-0.001). The CMAC D blade took a shorter time to intubate the airway in patients with a higher body mass index (25<BMI<=30). Haemodynamic response was similar between both the groups.

CONCLUSION:

The King vision being a channeled scope, is thicker than the CMAC D blade. This made introduction of the scope into the mouth difficult in patients with cervical spine immobilization. Once introduced into the mouth, optimization maneuvers

for intubation of the airway were less. It was also easier to intubate the airway with the King vision video laryngoscope based on the IDS scores. King vision, being a new scope in our department, required a learning curve for familiarity and skill. The CMAC D blade performed better in patients with a higher BMI.

KEY WORDS:

Cervical spine, C spine, MILS, King vision, CMAC, CMAC D blade, manual inline stabilization, video laryngoscope, immobilization.